

CLAIMS

1. A method of connecting a plurality of probe pins for measurement of characteristics of a thin-film magnetic head, to a plurality of first external connection pads, which are provided on a head gimbal assembly and are electrically connected to a plurality of terminal electrodes of a write magnetic head element, respectively, and to a plurality of second external connection pads, which are provided on the head gimbal assembly and are electrically connected to a plurality of terminal electrodes of a read magnetic head element, wherein an approach direction of said probe pins to said first external connection pads and an approach direction of said probe pins to said second external connection pads are made different from each other.
2. The connection method as claimed in claim 1, wherein the approach directions are different from each other by 90° or 180° .
3. The connection method as claimed in claim 1, wherein the approach directions are different from each other by a predetermined angle, which is larger than 90° and smaller than 180° .
4. The connection method as claimed in claim 1, wherein

the approach directions are different from each other by a predetermined angle, which is smaller than 90° .

5. The connection method as claimed in claim 1, wherein said probe pins are connected to said first and second external connection pads, which exist on an identical surface of said head gimbal assembly.

6. The connection method as claimed in claim 1, wherein said probe pins are connected to said first and second external connection pads, which exist on different surfaces of said head gimbal assembly, respectively.

7. The connection method as claimed in claim 1, wherein said probe pins are four probe pins which are connected to two of said first external connection pads and two of said second external connection pads, respectively.

8. A method of measuring characteristics of a thin-film magnetic head which uses a connection method for probe pins for measurement of characteristics of a thin-film magnetic head, the connection method connecting a plurality of probe pins, to a plurality of first external connection pads, which are provided on a head gimbal assembly and are electrically connected to a plurality of terminal electrodes of a read

magnetic head element, respectively, and to a plurality of second external connection pads, which are provided on the head gimbal assembly and are electrically connected to a plurality of terminal electrodes of a read magnetic head element, wherein an approach direction of said probe pins to said first external connection pads and an approach direction of said probe pins to said second external connection pads are made different from each other, to thereby perform characteristic measurement for said write magnetic head element and/or said read magnetic head element according to this connection method.

9. The characteristic management method as claimed in claim 8, wherein the approach directions are different from each other by 90° or 180° .

10. The characteristic measurement method as claimed in claim 8, wherein the approach directions are different from each other by a predetermined angle, which is larger than 90° and smaller than 180° .

11. The characteristic measurement method as claimed in claim 8, wherein the approach directions are different from each other by a predetermined angle, which is smaller than 90° .

12. The characteristic measurement method as claimed in claim 8, wherein said probe pins are connected to said first and second external connection pads, which exist on an identical surface of said head gimbal assembly.

13. The characteristic measurement method as claimed in claim 8, wherein said probe pins are connected to said first and second external connection pads, which exist on different surfaces of said head gimbal assembly, respectively.

14. The characteristic measurement method as claimed in claim 8, wherein said probe pins are four probe pins which are connected to two of said first external connection pads and two of said second external connection pads, respectively.